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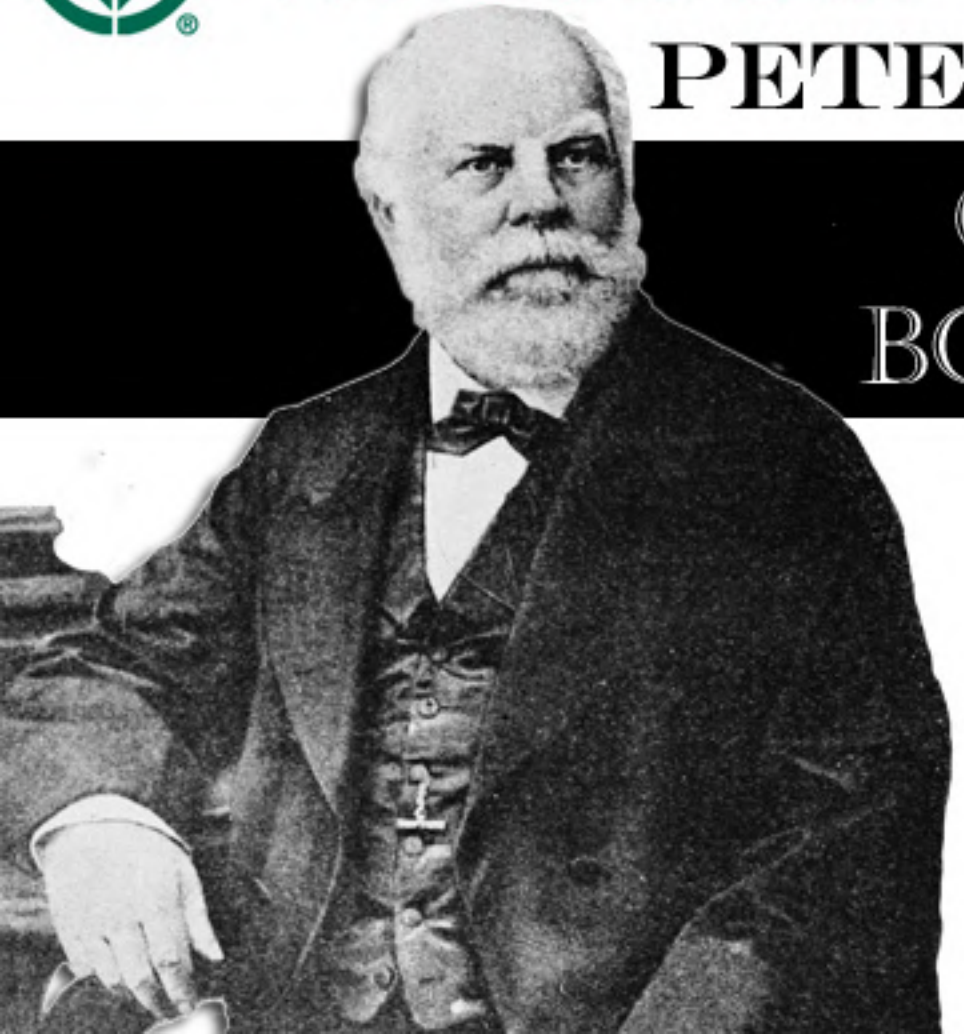


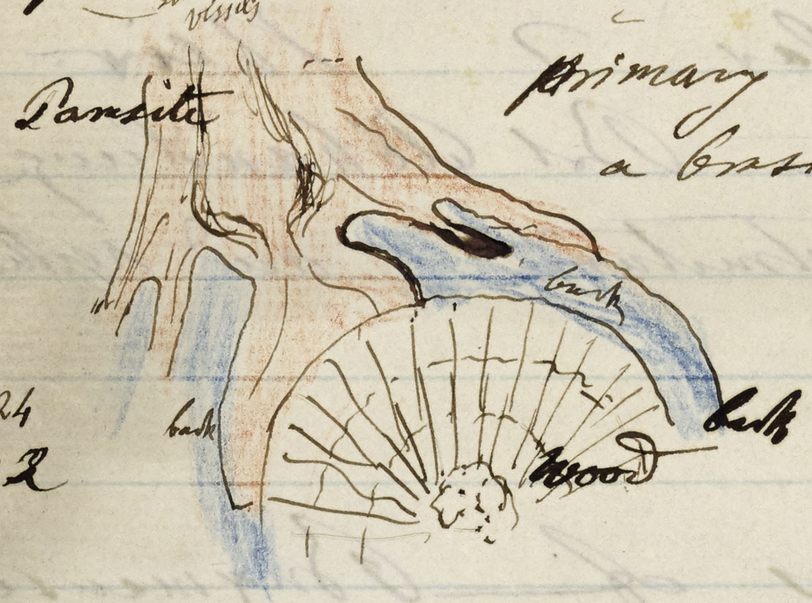
Pagination Note:
Since many of the items lack a specific page number, the page number displayed online refers to the sequentially created number each item was given upon cataloging the materials.

see also Solms Bot. Jahrb. 1874 p. 129
Solms in Botanische Jahrb. vol VI

Graf Solms, das Haustorium der Loranthaceen
und der Thallus der Rafflesiaceen 2) Balanophoren
in: Abhandl. d. Naturf. Ges. z. Halle 13. 3. p. 239
(Library of the Academy Illinois) 1875 4 plates

Loranthaceae do not germinate forming a root, but the radicular end
of the embryo changes at once into a Haustorium.

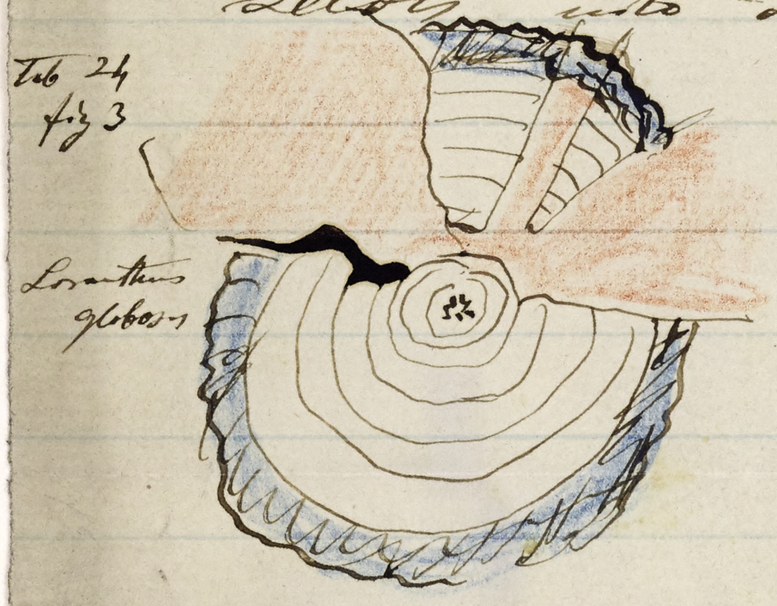
Primary Haustorium of
a Brasilian Loranthus



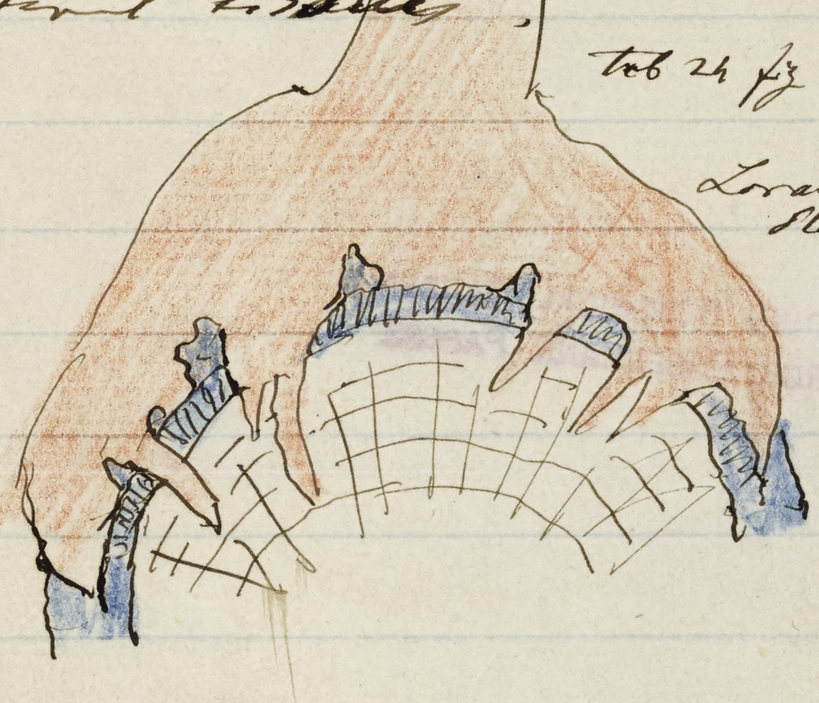
tab 24
fig 2

The lower end of the Haustorium penetrates
the Bark and attaches itself to the wood

future woodrings often surround or
press into the haustorium; rare Haustoria folds pass there-
along into different tissues.



tab 24
fig 3


tab 24 fig 11
Loranthus
Hemsleyanus
Chili

p. 256 Viscaceae act just as Loranthaceae do, even if at first
sight the growth and development of some forms belonging
here, e.g. Arceuthobium Oxycedri appears to be
entirely distinct (durchaus abweichend).

p. 258 Arceuthobium (Solms in Botanische Archiv VI p. 615–621) Adventiv
vielfach verschlungen, geflecht von gefässen durchzogenen
Gewebs strängen — Adventive Knospen scheinen hier
durchaus die Regel zu sein, der Zweig bedeckt sich durch die
mit Sprossen

p. 259 The Rafflesiaceae form a Thallus of many cellular
irregular strings or masses in the bark tissue
from which adventive buds sprout through the bark
of the nurse branch — In several species these
strings contain vessels as in Arceuthobium
and make Projections „Senker" which attache
themselves to the nourishing wood (Nährholz)

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cm
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Robanke has similar Phallus fibers
in the tissue of the root on which its vegetative
but they rarely make sprouts.

Cassuta Sonnerata similar? Neue
Haustoria (Koch in Haustens Bot Abhandlung
Bd 2. no 3) are thallord structures, and neither
root nor stem.

More about the Phallus of Brazil
Solms — Laubach in Bot. Zeitung 21 July 1876
N° 29 — 32.

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Stems much branched only 3–4 inches high — on specimens, stouter, more sharply 4 angled than in any other of our species, always on Pinus Ponderosa, and not uncommon. Stems 1–2 lines in diameter. flowers oval abt 0.8 of a line long, and 0.7 in transverse diameter

281.

Rhamnaceae

14 Berberis Aquifolium Pursh 6 erect, 6-lobed petals, 6, alternating much larger sepals, ovate, and 6 bracts (?) 3 inner large, 3 outer smaller. see next page

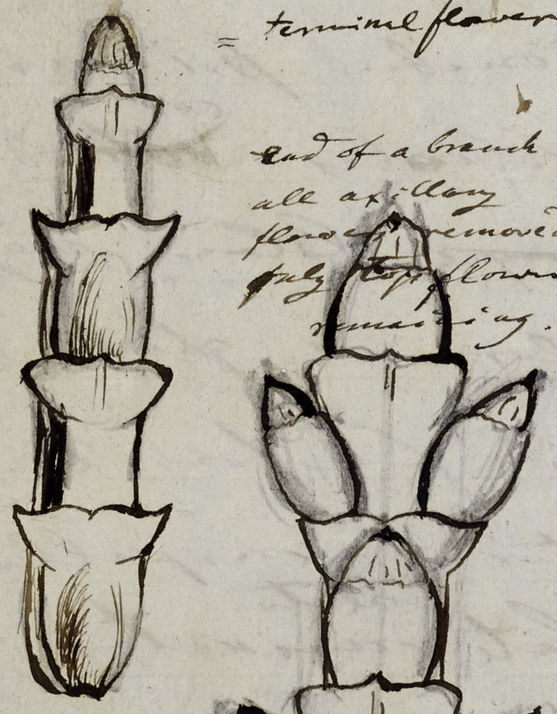
13. Thalictrum Fendleri Dioicum, caule erecto, foliosa striato angulato, glauco, glabrius. s. sepe tenuiter glandulosa; foliis breviter petiolatis, ramificationibus primariis basalibus s. reptantes, stipellatis; foliolis cordato-rotundatis, trilobis, plerumque lobis saepe dentatis, supra atroque supra glandulosis s. glabris, subtus glandoloso-puberulis; floralibus foliiformibus, superne vix dentatis, acutis, mucronatis; capellis sessilibus obliquis ovatis compressis, costatis, late carinatis, stylum curvatum s. uncinatum, fere longitudine. sepalis

Santa Fe —, shady places on Creek, and other water courses, fl. June, fr. July. — A variable plant, resembling somewhat Th. Cornuti; but amply distinguished by the petioled stipellate leaves, (rounded leaflets, bruntate or retract divisions of petiole) the broadly oval strongly alate fruit, with shorter style; in Th. Cornuti the ribs of the fruit are equal somewhat terete; but here the dorsal rib is extended into a broad wing. Leaflets in some specimens, of 18–24 inches high small, only 3 or 4 lines long; & in other larger specimens they are as much as 8 or 10 lines long & wide. Sepals broadly ovate dentate; of Th. Cornuti

A few specimens collected on Mora River are mixed with this species — they are easily distinguished by the sessile smooth leaves etc

pl 14 Acanthoseium

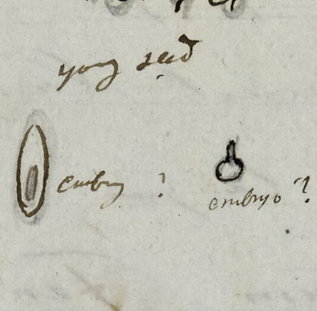
= terminal flower



end of a branch
all axillary
flowers removed
only 1 opp flower
remaining.

unripe fruit

young seed



embryo ?

embryo ?

trifid female flower
(rather young fruit

closed male fl.

rudiment of ovary

male flowers single or 2 or 3 lateral
smaller ones with the pairing one

Bost. Journ Nat Hist. VI. p 212-215 note

A. cryptopodum Eng. Pl. Lin. Sh. II p. 214 1850

283 On Pinus brachyptera! — The staminal of the three,

with regularly quadrangular stems, in axillis folium (s. bracteam) oppositi, terminales que spicas ramosas referentes

Dioicam; flores masculi, in quavis axilla axillares, v singuli obovato obconicum

bini s. terni; perianthio simplex ovale, compressum,

trifidum, lobis 2 lateralibus carinatis, tertio dorsali argentino, plano; antheris

globosis medio dorso affixis, pericinii lobis affixis;

ovarii rudimento trilobo. Flores foeminei spicati

axillis singuli brevissime stipitati

axillares sessiles, ovati perianthio ovato compresso,

apice emarginato s. bidentato, stigmatis apicem

emittente; stigmate ovario tecto (cum perianthio

connato) stigmate sessile conico.

Caulis articulatus; articulis quadrangulatis

abbreviatis, foliis connatis pelvi longitudinibus abbreviatis,

truncatis, cuspidatis, dentatis, crenatis,

s. dentatis.

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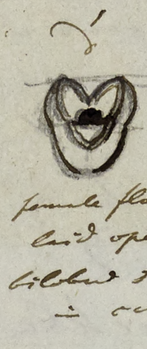
1848

Stems much branched, only 3–4 inches high in our specimens, stouter, more sharply 4 angled than in any other of our species, always on Pinus Ponderosa, and not uncommon. Stems 1–2 lines in diameter, flowers ovl abt 0.8 l. long, and 0.7 in transverse diameter

281.

small branch with lateral flowering branches or pedunculus

flowering branch or pedunculus

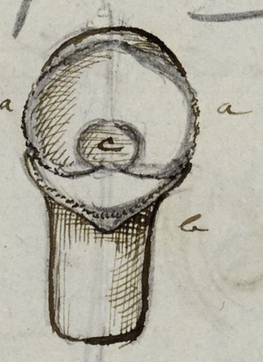


female flower laid open bilobed stigma ÷ centre

Rhondendron ferrugineum
Lmg. ÷ Ot. Inst. p. 58.

petal impare dorsum spectans
flores axillares

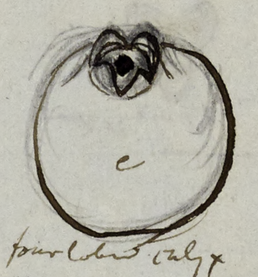
fruit bearing branchlet or pedunculus



lateral view of same after removing fruit

three lobed calyx

not quite ripe



four lobed calyx

281. ~~Arcuthobium~~ Rhondendron ferrugineum

Dioicum, flores masculi (v. pedunculi) ? in ramulis lateralibus ~~v. pedunculis lateralibus~~ abbreviatis bini, bractea inferiore, et duabus lateralibus fulci, globosi, sessiles tri– (rarissime 4–) lobi, lobis ovatis acutis, stigmate sessili obscure bilobo, bacca nempe pellucida (vinosa), apice lobis perigonii persistentibus 3 (rare 4) dentata.

Caulis articulatus, ramosissimus, ramis teretibus, ramulis compressis, foliis connatis, pulviformibus abbreviatis truncatis vix cuspidatis, et carinatis, margine tenuiter ciliatis, decussatis

Only on Juniper species (virginiana & Santa Fe). My specimens 8–10 inches high, as much form a thick bush, stems below as much as ½ inch in diameter, flowering branchlets 1½ l. long, fruit flower 0.55 l. diameter about 2 lines in diameter of yellowish wine colour flowering branchlets in the axills of the opposite leaves bearing always two opposite flowers, in the axills of the only pair of leaves or bracts which they bear, the flowers are subtended by two lateral bracts which are connected to an almost hemispherical cup (a.a.) at the base of which the flower and fruit are sessile (at c)

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16. fruit and young flowers on the same plant — fruit three of last year.
old.

Explanation of the figures: a. lateral bract

b, inferior bract, or leaf in the axilla of which the flowers is produced

c, scar, where the fruit has fallen off,

d, female flowers e fruit

f. end of pedunculate bracklet between the two flowers or fruit

g. fruit properly, after removing the viscous pulp

h. seed

i embryo

g.' h.' i' ripe

g. h. i not quite ripe

k. young, undeveloped bracklets of flowers.

l. more developed bracklets with the flowers, or if we may call them so, peduncles

282

These male flowers have a second flower (young, smaller) before them, therefore the cavity in front in the two first figures

male flowers single in the axillae. therefore no cavity for a second flower.

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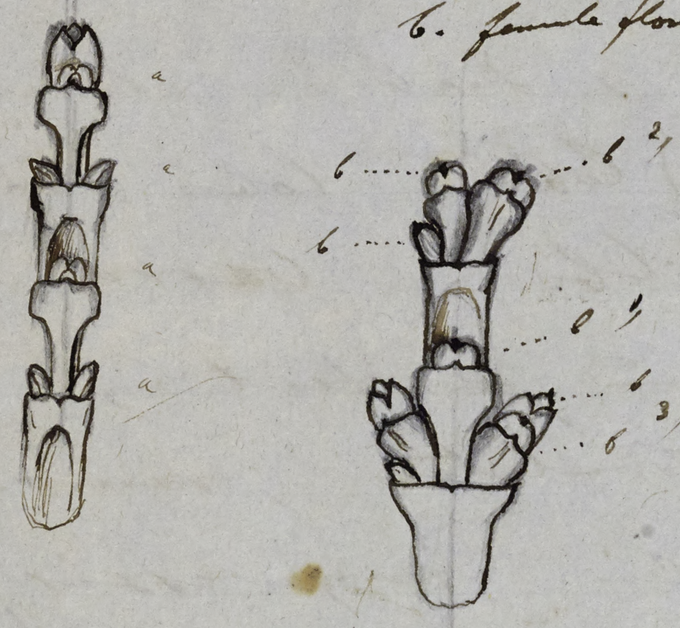
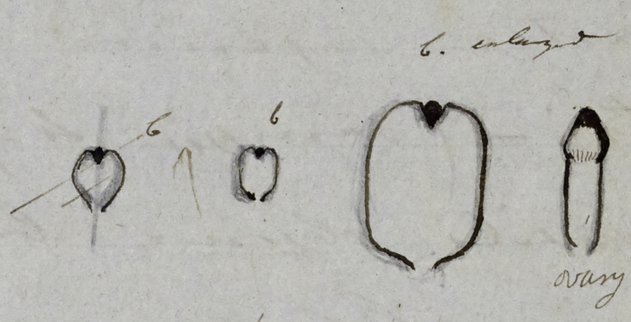
a. male flowers.

b. female flowers



b. enlarged



Here we have at b, 1 single axillary flower, at b. 2 a terminal two-bracted flower on a short peduncle or bracklet and at b. 3 a short branch with two or 3 flowers.

transition, if distinct from

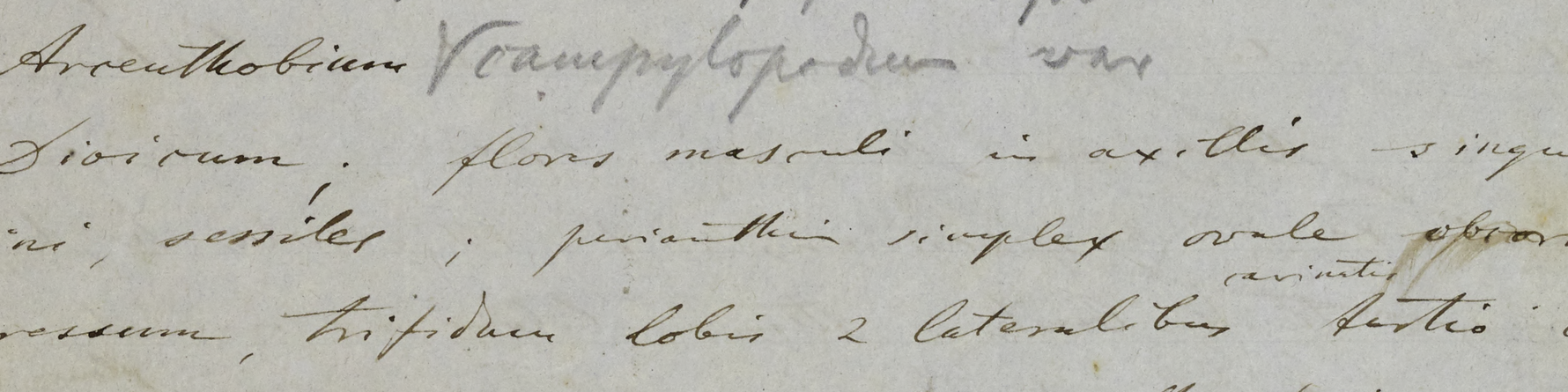
282. *Arceuthobium* Vaupyloprosopum van

Dioicum. flores masculi in axillis singuli s. bini, sessiles; perianthii simplex ovale obtrorsatum compressum, trifidum lobis 2 lateralibus (axiantis) tertio dorsali plano ~~antheris globosis~~ medio antherifero, antheris globosis in medio dorso affixis, loculis binis, rima transversali dehiscentibus, ovarii rudimento horizontali trilobo, lobis cum antheris alternantibus. fl. fem. vide next page

Caulis articulatus, articulis compressis, quadrangulis ramis oppositis saepe dichotomis

foliis connatis, peltiformibus binatis, bracteatis, bracteis cuspidatis, vix carinatis, decussatis, margine integro

fl. fem. vide next page



282 terminalibusque floribus foemineis axillaribus singulis, perianthio compresso obovato, apice bidentato, stigmate crasso sessile apicem emittente

Only on Pinus edulis, rare; Fendler 282

The most slender of the three here mentioned: stems 4 inches high, compressed, somewhat angular, branches spreading, often somewhat recurved often bifid or dichotomous (the terminal bud disappearing by abortion). Branchlets very much compressed, but regularly 4 angled, leaves the same as in both others, only smaller, not so late. flowers 0,4 wide c. 0,55 long. Male flowers as in N:o 283, but rudiment of ovary larger and dilated with 3 spreading alternate lobes. Female flowers also very similar to 283, but not regularly spiked, that is in every axill on the young branchlets; as in that species, sometimes we find them in the axills single, sometimes terminal on small branchlets which bear only one pair of leaves, sometimes 2 or 3, axillary and terminal on small branchlets with two pairs of leaves; — Fruit not seen.

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281 Dioicum vaginatum (Humb. Gray)

Dioicum; flores masculi ? ____ flores foeminei in pedunculo brevi bini, tribracteati; perianthium globosum tripartitum; stigma obsolete bilobum.

282 & 283.

Dioicum; flores masculi singulae in bractea axilla 1–3 perianthium tripartitum, lobis medio antheriferis, antheris globosis unilocularibus transverse dehiscentibus, rudimentum ovarii trilobo, lobis cum antheris alternantibus. — Flores foeminei axillares s. terminales singuli in bractea singulae axilla perianthium obsolete obovatum s. obovatum tripartitum, compressum bidentatum, stigmate crasso sessilis apicem emittentibus

282 rami tetragoni compressi, gemmis tetragonis compressis, flores axillares et terminales irregulariter dispositi, gemmis foliaceis mixti, singuli s. in ramulis brevibus aggregati (2–3)

283 rami crassi regulariter tetragoni, flores axillares, regulariter et terminales respirati

Arceuthobium Oxycedri (DC.) M. Bieb.

Phoradendron juniperinum E

Which of these is Arceuthobium Oxycedri if any ? and which is the A. Oxycedri of Hooker, (Eleadons Bay) and which the A. americanum. Nuttall

A. Oxycedri of Europe has : flores foeminei ad ramulorum apices 3 breve pedicellati.

Viscum vaginatum HBK floribus in axilla vaginae duobus oppositis sessilibus.

Viscum cupulatum DC. prod IV, 285. Articuli fertilibus brevissimis fructus duos tantum gerentibus, ~~vaginalis brevissimis~~ floribus spicatis sessilibus oppositis, bractea cupulata membranacea obiculata sub bacca ovata. —

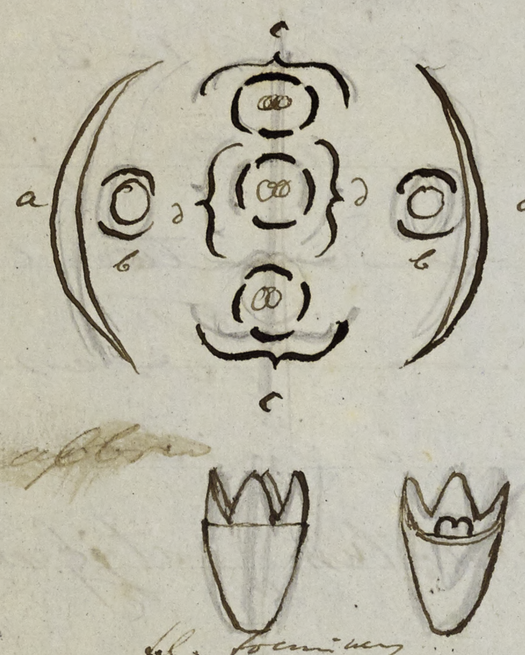
This agrees remarkably well with N° 281. — But the stem is said to be quadrangular ! — which is also the case in V. vaginatum.

Viscum ~~albovum~~ flores masculi glomerati ternis, medio majore, lateralibus minoribus, bracteis (pedunculi) ad apicem ramuli brevissimis, bibracteati ciliatis, cupulam subabbreviatis cuspidatis, hemisphericam referentibus (ad modum Arcuthobii) ; perigonium campanulatum 4-lobum, lobis ovatis, acutiusculis, superficie interiore tota antheniferis ; antheris oribiformibus, poris plurimis reticulatis dehiscentes.

a uppermost pair of leaves, b axillary brackets, c. pair of cupulate ciliate bracts, including the three flowers

fl. masculus

Flores foeminei spicati in ramulo paulo elongato (pedunculo) terni, lateralibus inferioribus bracteatis, bracteis distinctis, abbreviatis, cuspidatis, ciliatis, perigonium cum ovario connatum subtetragonum, 4-lobum, lobis triangulatis acutiusculis, stigmate sessili. Calycis margo integer

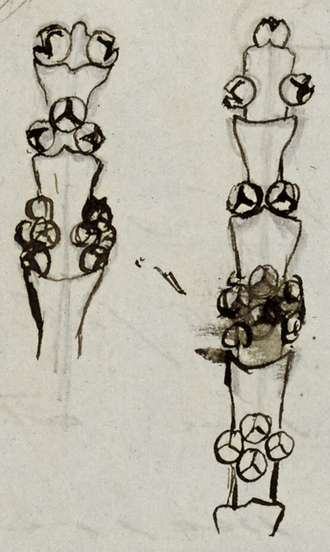


a. uppermost pair of leaves
b. axillary brackets
c lowest pair of bracts
co upper pair of bracts.

fl. foeminus

(Hookeyaps)

Viscum flavescens Pursh



spicae ad nodum Arcuthobii articulatae basteis oppositis connatis instructae, pubescentes.

Flores masculi ?

Flores femminei in axillis pubendi s.

supra axillos bracteam saepius plerumque bina terna v quaterna, varius plures, in cavitatibus articuli impressi, tribus Panzonis — Depresso globosum, tricoba, vesiculum globum, pubescentem; stigma sessile capitatum subbilobum. Flores plusimi abortivi plusimique bacca unica supra gracilis bracteae axillam. foliis oborta = petiol dilata. 3 nervia junior pubenla

Banks of the Wabash & Ohio — Banks of the Rio Grande below Santa Fe on Populus Leaves 1-½ over 2 inch long ½-¾ wide, fem. spike ½-¾ inch long

Viscum orbiculatum n. sp.

spicae ad nodum Arcuthobii articulatae, basteis ut supra, flores masculi in axillis et supra axillos bracteam in articuli superficie immersis. Antherae bilobae, transversa poris duobus apertis.

Very near *V. flavescens*, but distinguished by the orbiculate, shortly and abruptly petioled leaves almost nerveless, 3 nerves obsolete or the upper one indistinct Stut more or it lower supra Younger branches & leaves pubescent.

Ramulis teretibus oppositis, foliis orbiculatis s. ovato-orbiculatis, breviter et abrupte petiolatis, indistincte trinerviis, junioribus pubescentibus. spicis abbreviatis. foliis brevioribus dense glandulosis

On Quercus nigra Sterile hilly forests

with Pine timber, Arkansas. Near San Felipe Texas, on some species of Quercus. — Leaves on the older branches exactly orbicular, 6-10 lines diameter, on younger ones often somewhat ovate, petiole 1-1½ l. long. —

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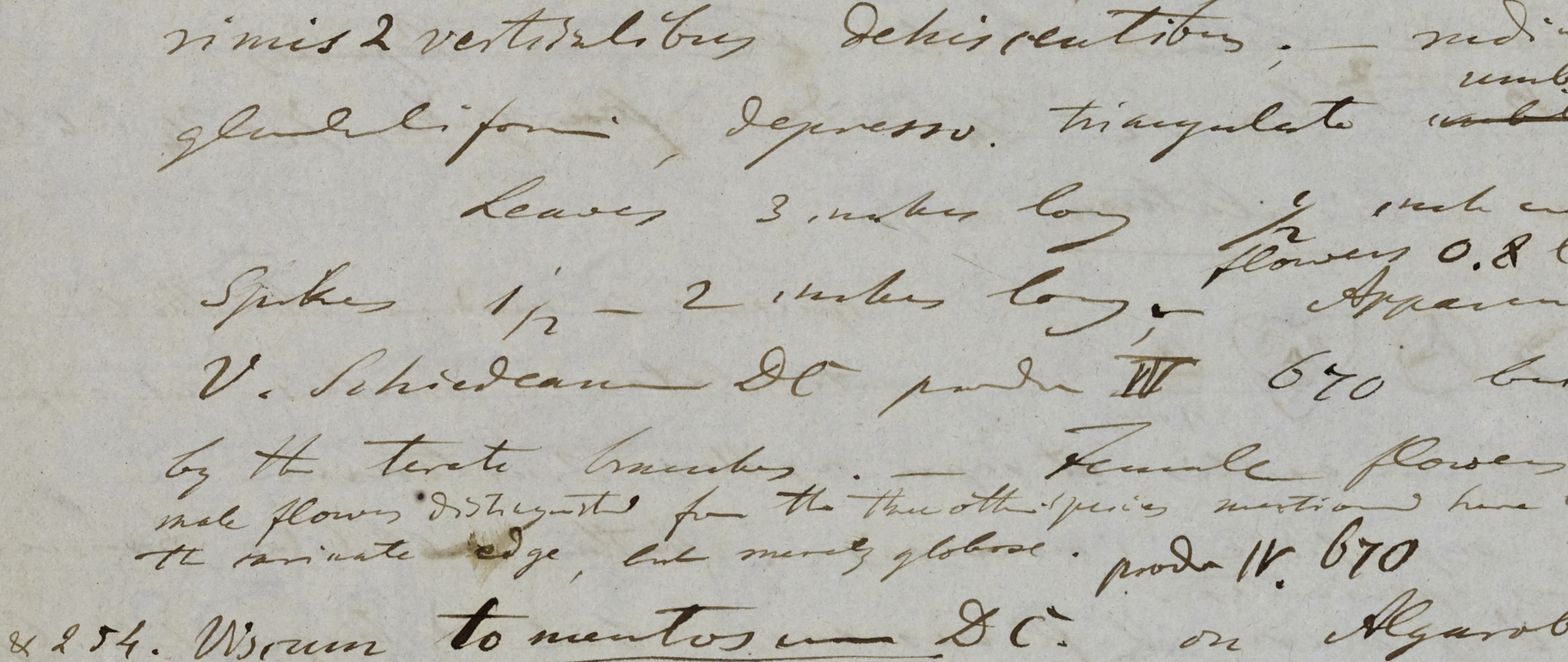
20. 5648

255. Viscum lanceolatum n. sp. D. Gregg. Rinconada, on Live oak
Feb. 11th

glaberrimum, ramis teretibus, oppositis, foliis lanceolatis elongatis subfalcatis, obtusiusculis basi ± petiolo brevi ± attenuatis, 3–5 nervis; spicis masculis ± axillis singulis, oppositis, foliis brevioribus; ~~vaginis~~ bracteis triangularibus, ~~integris~~, glabris in vagina brevi connatis, articulis (plerumque 10–14) flores 6–18 semi-immersos, globosos gracilibus; perigonio depresso globoso, non marginatum, ~~ad lobos~~ basin ~~infunda~~ sessilibus, bitorulatis 4 lobis, antheris 2 verticalibus dehiscentibus. — ovario glandulifero, depresso, triangulato ~~umbilicato~~ umbonato.

Leaves 3 inches long ½ inch wide, male
Spikes ½–2 inches long; flowers 0.8 l. diameter.
Apparently near
V. Schiedeanum DC prodr VII 670 but distinguishable
by the terete branches. — Female flowers not seen.
male flowers distinguished from the three other species mentioned here by having without
the carinate edge, and more globose. prodr IV. 670

31 & 254. Viscum tomentosum DC. on Algarobia and other
mimoseæ, D. Gregg. Jan. & Febr. Rinconada



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tomentosum, ramis teretibus oppositis, foliis obovatis, ± oblanceolatis, obtusis, ± petiolo brevi
brevi attenuatis; seminibus subtus obscure trinerviis
spicis masculis ± axillis singulis v. binis tomentosis folium longe
superantibus, bracteis brevi vaginatis, truncatis, articulis

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cm
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elongatis (15–25) multifloris, perigoniis globoso-
depressis, puberulentibus, tricobis (transversim 4 lobis)
antheris ad basin lobos sessilibus transversis, bi-
loculatibus, poris duobus dehiscentibus; ovarii
rudimento depresso triangulato, medio stipite
gerente. Spicis femineis ~~ad~~ ~~foliosis~~
subbracteatis, oppositis s. ventisellatis, ad
axilis apicem paniculatim congestis; articulis
abbreviatis sub 8 floris; perigoniis deltoideo-globo-
3 lobo, stigmate sessili globoso;

leaves 1–1¼ inch long, half as wide;
sterile spikes ½–2½ inch long, fr. spikes 1 inch
long, flowers 0,5 l. = 2 in. diameter.
fruiting spikes 1–1½ inches long; berries
1¾–2 lines = 2 in diameter.

Viscum Flores monoici s. dioeci (campanulati), Flores masculi: ~~calyx nullus~~ perianthium 4 partitum, antherae lobis ~~nullis~~ totis adnatae, multi-
cellulosae, poris plurimis dehiscentes; Flores femineis:
calyx tubo cum ovario ornato, limbo obsoleto margine
integro; corolla 4-petala summo ovario inserta; Ovarium
inferum uniloculare ovulo unico pendulo; Stigma sessile
obtusum; Bacca subbilobum globosa pulposa, monosperma, semipellucida, corolla persistente
coronata.

Frutices foliosi, parasitici; ~~foliis~~ foliis oppositis;
floribus masculis glomerulis terminalibus, femineis
in spicas articulatas breves terminales congestis; in quarum bracteae
axilla singulis.

Spici viscum (globosi)
Phoradendron Nutt. ~~Viscum~~ Flores dioeci). Fl. masculi: perianthium
3 lobum (rare 2 s. 4) lobum; antherae lobo basi
adnatae, (bilobulares, transversae) poris s. rimis
verticalibus duabus dehiscentes. Flores femenei:
Periantium 3 (rarè 2 s. 4) lobum; ovarium infer-
tubo adnatum ~~ut~~ ut supra. Stigma sessile plus minus bilobum,
per perigonio persistente coronatum obtusum ut supra
pluglobosis fructus racemicani, foliosi, parasitici. Floribus
in spicas articulatas interruptas, axillaribus singulis s. aphyllis
supra quarum bracteae axillam dispositis
abbreviatis, ornatis, vaginula pelviformi immersis, bracteis
abbreviatis, ornatis, vaginula pelviformi formantibus,

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ovati
compressi

Arenthobium Flores dioici. Fl. masculi: Perianthium compressum
trifidum, Antherae cobis mediis adnatae, uniloculares
rima transversa dehiscentes. Flores femminei: Perianthium
ovatum brevissime stipitatum compressum bidentatum, ovarium infera, tubo adnatum etc.
Stigma sessile conicum, etc. Bacca carnosa
opaca ovata compressa perigonio persistente coronata. Semen gelatinosum
testa gelatinosa et albumine carnoso.

articulati. foliis squamaeformibus in vaginulas connatis. peloriformes
s. capituliformes reductas; terminalibus saepe spiram obtegentibus s.
Fl. femineis plerumque singulis. axillaribus. bacca fructifera longius saepius
pedicellatis, extus carnosis ictus viridis
perigonio aucto disolore coronatis
plerumque

I. Viscum

V. album.

II. Spiciviscum * foliosa

1. Sp. flavescens (Funk sub Visco) ramis teretibus, foliis
obovatis, in petiolum attenuatis, 3 nerviis junioribus pubentulis,
spicis petio axillaris singulis s. binis, folio brevioribus,
bracteis truncatis, ciliatis; floribus in quovis articulo 6–10
rachidi immersis
depresso-globosis, annulato-carinatis, parce pubescentibus, rhachidi
3 (rarissime 2) fidis,

On Platanus and Ulmus, 40 miles below St Louis on the
Mississippi and lower Ohio — on Populus on the Rio Grande
below Santa Fe. — Leaves 1–1½ or even 2 inches long
and ½ – ¾ wide; spikes ½ – ¾ inches long; flowers
0.5 lin. in transverse diameter. —

2. Sp. orbiculatum. n sp. ramis teretibus, foliis orbiculato
s. ovato-orbiculatis, breviter et abrupte petiolatis, indistincte
trinerviis pubescentibus, demum glabratis; spicis foliis
brevioribus, pubentulis etc. ut supra.
sterile

On Quercus nigra Hills of Arkansas; on Quercus
San Felipe, Texas. — Leaves on the older branches exactly
orbicular, 6–10 lines in diameter; young ones somewhat
longer than wide; petiole 1–1½ lines long; flowers 0,5 l. in diam.

3. Sp. tomentosum (DC sub Visco) tomentosum; ramis teretibus
foliis obovatis s. oblanceolatis, obtusis in petiolum brevem basi
attenuatis, senioribus subtus obscure trinerviis; spicis
masculis in axillis singulis s. binis; foliorum longe-superantibus

bracteis ~~bracteatis~~ truncatis, articulis elongatis, multifloris
spicis femineis foliis subbrevioribus oppositis v. verticillatis,
ad ramulis apices paniculatim congestis, articulis abbreviatis
nb 8-floris; floribus ~~Rhachidi~~ immersis depresso-globosis
annulato-carinatis, puberulis; 3, (rarissime 4)-fidis

On Mimoseae, Rhizonda & Gregg – vide pag 21.

4 Sp. lanceolatum n. sp. glaberrimum, ramis teretibus; foliis
lanceolatis, elongatis, subfalcatis, obliquis, in petiolum
brevissimum sensim attenuatis; 3–5 nerviis; spicis
masculis in axillis singulis, foliis brevioribus, bracteis
triangularibus connatis, articulis 8–18-floris; floribus
rhachidi immersis, globosis non carinatis, 3 (rarius 4)-
fidis.

On Live oak, Rhizonda & Gregg, vide pag. 20.

~~III~~ ~~**~~ Aphylla squamosa

5. Sp.? Juniperinum (~~V. corpulatum Dtc?~~) glabrum, ramulis
articulato ramosissimo, ramis teretibus, ramulis compressis
foliis squamiformibus connatis, truncatis, vix cuspidatis, pluriformibus,
tenuiter ciliatis; spicis femineis latentibus
oppositis, abbreviatis, bifloris, floribus bracteâ
inferiore majore et duabus latentibus; in cupulam
connatis ciliatis, fructibus globosis, 3-lobis (rarissime 4-lobis)

On ~~Cedars~~ Species of Juniperus, Santa Fe. Fendler Exs. 281 Descript
see p. 15. & 17. I have not seen the male flowers; but still
I judge it to belong here on account of the analogy of
the female flowers. The spike is here reduced to its
most simple form, and we see also how the cavity in
the axis is formed, in which the flowers are imbedded:
it consists of two latent bracts! Distinct from V. corpulatum
by the terete, not quadrangular stem.

III. Arceuthobium cryptopodum

1. A. robustum n sp. glaberrimum, ramulis ramis robustis, subcubicis
~~subcompressis~~ ~~obtuse~~ ~~tetragonis~~ acute quadrangulatis, articulatis; articulis abbreviatis;
foliis squamiformibus connatis truncatis, cuspidatis, carinatis;
floribus in ramulis axillaribus terminalibusque, spicas
ramosas brevissimas (~~evolutas~~ evoluta) referentibus; masculis 1–3, femineis
singulis in quavis axilla

on Santa Fe, on Pinus Ponderosa Fendl. No. 283. see page 148

5649

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2 A. gracile n sp. glaberrimum, caule ramisque gracilibus compresso, vix angulato quadrangulatis, complanato-compressis, articulatis, saepe dichotomis, articulis longioribus, foliis squamiformibus imperfecte subconjunctis connatis, truncatis, cuspidatis vix carinatis, floribus axillaribus terminalibusque, masculis singulis 1-2, femineis subsessilibus.

Santa Fe, on Pinus edulis Fendl. 282. See page 16 & 17. — Distinguished from the former mainly by the more slender growth, yellowish green colour, compressed branches & half as large & not regularly spiked flowers.

finished Nov. 13th 1848

Arenthobium americanum Nutt.!

Oregon. Nuttall leg.

Spec. received fr. E Durand

only male flowers.

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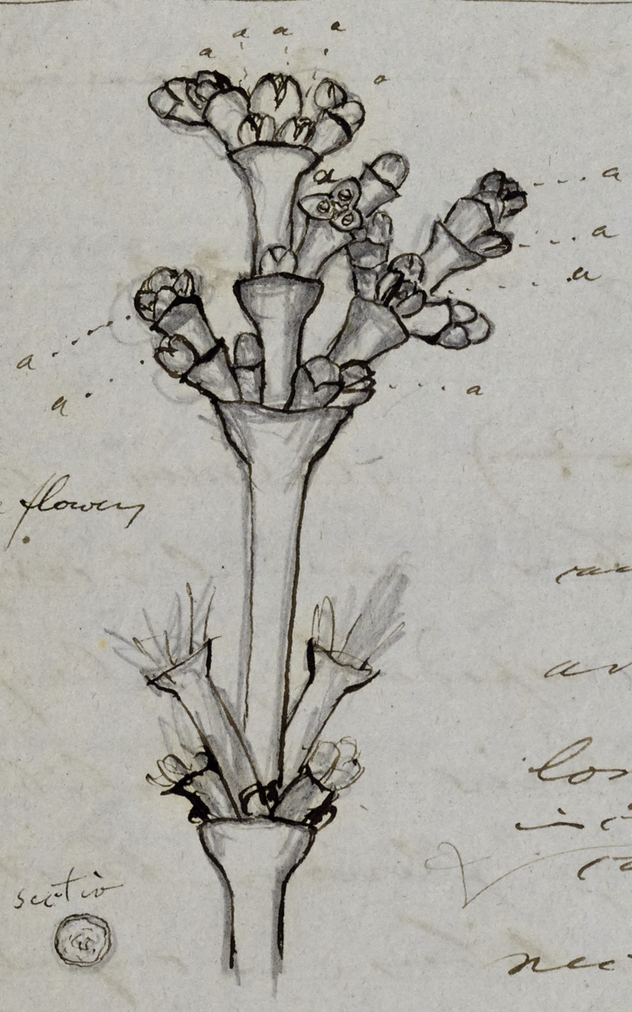

A. americanum Nutt. glaberrimum, caule ramisque fasciculatis tenuibus, gracilibus, articulatis, articulis imperfecte longioribus, foliis squamiformibus imperfecte conjunctis connatis, truncatis, non cuspidatis nec carinatis, floribus axillaribus terminalibusque, (masculis) Oregon. On Pinetrees. Nuttall — Considerably resembling the last species A. g., but at once distinguished by the slender branches, the much dilated sheaths vaginae, and the fasciculate branchlets, — Only male specimen seen. — flowers abt 5 lines long; rudiment of ovary triangular, smaller than in A gracile.

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petals 4 separate deciduous spatulate

Rhoadendron Californicum Nutt. glabrum, ramulis elongatis strictis, gracilibus, teretibus; foliis squamaformibus, ovato-lanceolatis, patentibus, basi connatis, tenuiter ciliatis; spicis femineis lateralibus, oppositis (subquadrifloris); floribus 4-quinis articulo brevis, globosis, trifidis, glabris, ciliata immersis, cupulae globosis; spicis fructiferis elongatis; bacca globosa, flori persistente coronata. —

Sierra Nevada, Californi

or *Stromb.ocarpus Emoryi* Nuttall

Intermediate between and connecting the Cassiope — & Leaf-less species of this Genus though properly belonging to the latter. Only leaves longer than the branch, patulous; flowering spike slightly elongated. — 4-5 joints (the only seen 7—9 l. long; fl. spikes about 3 l. long; fruiting spike 9 l. long; fruit 3 l. — diameter — Fl. spikes with two small lateral lanceolate, ciliate bracts at base; 4-5 joints of fruiting spike so elongated, that the (typically axillary) fruit is carried up to the top of the joint, just below the next pair of leaves. — Stigma globose, very slightly bilobed. — Branches elongated, a foot or more in length (Nuttall)

Viscum villosum Nutt tomentosum, ramis teretibus, foliis oblanceolatis — spathulatis, obtusis, in petiolum brevem attenuatis, obscure trinervis s. subenerviis; spicis femineis abbreviatis, 2-3 articulatis, (inferiore 6—8 flor, superiore 2 flora; floribus ternis bractei trinatis, articulis abbreviatis) floribus depresso globosis, annulato — carinatis pubentibus, 3 fid

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Wahlamet woods, Oregon Nuttall —

leaves 2–12 l. long 3–4 l. wide, spikes 3–4 lines long, flowers 0,5–0,6 l. in diameter as those of Ph. flav. orbic & tomentos— deplressed, somewhat almost with a ~~corolla~~ annular carina, which is strongly orliate — stigma conspicuously Bifid. —— The narrow, long attenuate leaves and the short spikes distinguish it fro V. tomentosum.

Arceuthobium Oxycedri M Bieb. glaberrimum caule ramisque appositis s. dichotomis compresso–teretibus, glaucis articulatis, ramulis compresso sub 4 angulatis, foliis squamiformibus triangulari-ovatis in cupulam connatis, junioribus carinatis, floribus femineis ternis ramulorum apicem axillaribus terminalibusque i. inguinis s. binis; ex certo ~~spicatis~~ pedicellatis, bidentatis.

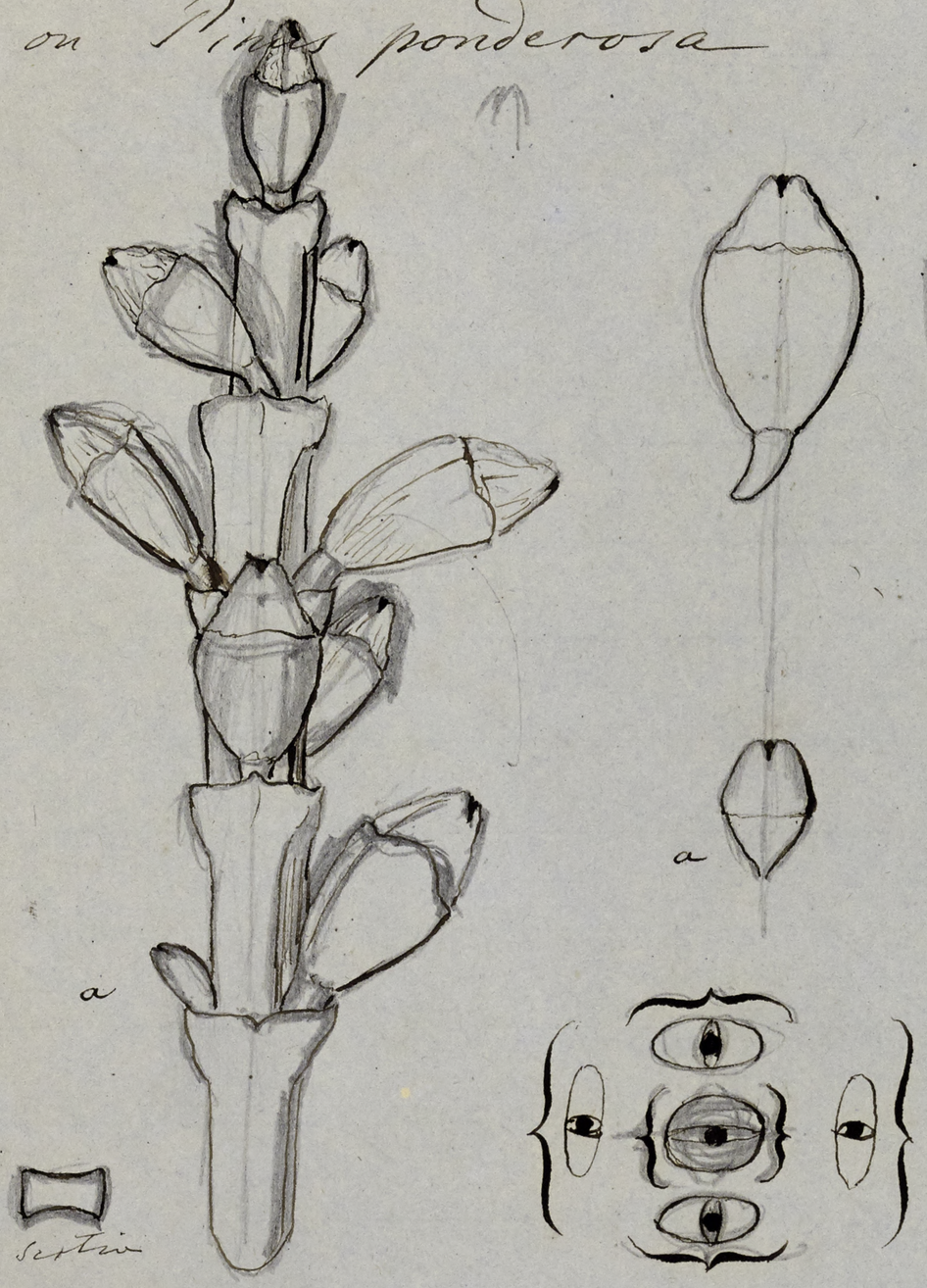
Fiume, Dalmatia in Juniperus Oxycedrus (Herb A. Gray) Branch before me 0.6 lines in one, 0.8 in the other diameter; smallest branchlets obscurely 4 sided; Lowest joints of the ultimate branchlets sterile, next joint producing two leafbuds, the 3 to 4 following joints bearing both the flowers, one of which is terminal; flowers before they are fully developed partly disclosed in the bracteal scale, but soon extend on a pedicell which is half the length of the flower. I suppose that the usual state is where only the two uppermost joints bear flowers in that case (the last joint bearing a terminal flower and the second one two lateral ones) Decandolles phrase is correct: "floribus femineis ad ramulorum apices ternis". But in the specimen before me most branchlets bear from 5 to 9 flowers, or three 3 or 4 each joint one only in each axilla or sometimes 2 —— —— flowers 4 lines in transverse diameter and 8 vertically with the pedicell. Ultimate branchlets 0,3 l. in diameter and 1–1½ l. long

0,3 l. wide, and 0.4 l. long

Arceuthobium

on Pinus ponderosa

Gegen, Oregon, only sien

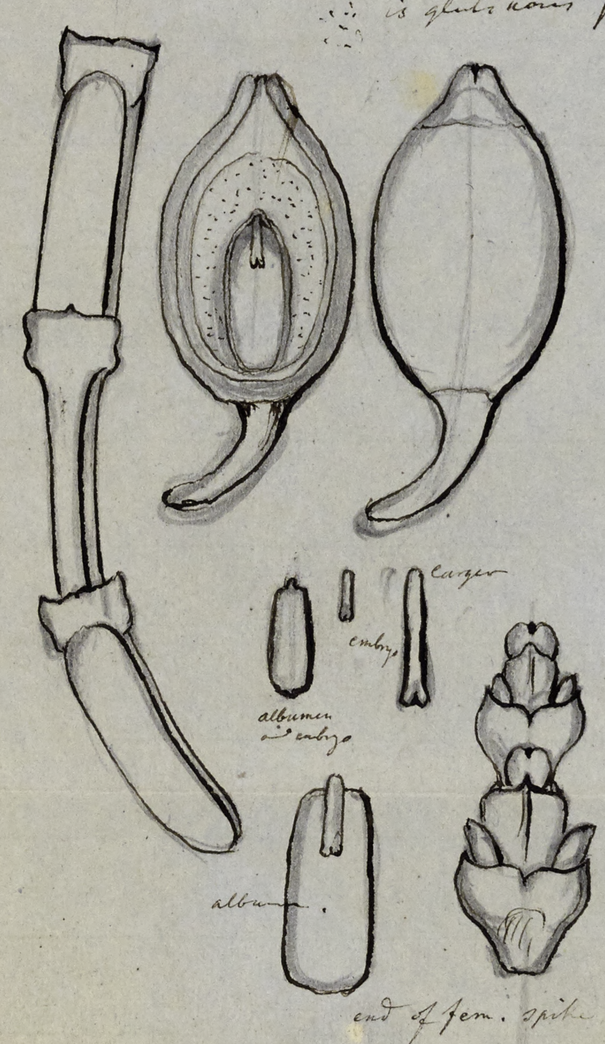


glaberrimum, glaucum
caule
ramis ~~gracilibus~~ erectis robustis, acute compresso
quadrangulatis, articulis
articulis ~~brevibus~~, foliis
squamiformibus connatis,
truncatis cuspidatis, junioribus
carinatis, floribus femineis
in ramulis axillaribus semi-
nalibusque, spicas ramosas
referentibus, in axillis singulis,
fructibus exserto pedicellatis
patulis. —

Nearly allied to A. robustum, from Santa Fe, but easily distinguished by the elongated exsert pedicelle of the fruit, (while) that of the flower (a) (very short and) is included. Joints also more slender; not as thick twice as much is their diameter. — Pedicle of the fruits before me about ¼ of their length; fruit (unripe) 1,7 L. lng; flower (a) or probably young fruit 0.8 L. lng.

Arceuthobium

Douglas California



glaberrimum, ramis acute compresso
quadrangulatis, articulis longioribus,
ultimis brevissimis, foliis squami-
formibus, connatis, truncatis,
cuspidatis, junioribus acute carinatis,
naviculato-compressis, floribus
in ramulis axillaribus semina-
busque, spicam ramosam referentibus
masculis 1–2, femineis singulis,
fructibus exserto-pedicellatis, patulis
recurvisve.

Fruits before me more advanced than in any other species

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as yet seen by me, oblongoval, almost terete, but slightly bicarinate on the sides; upper valvate (perigonial) part smaller than in any other species; pedicle longer more than one half the length of the fruit. — Fruit about 2 lines long, — 1,2 in diameter. — Female spikes seen not yet fully developed? joints short, navicular; flowers very small, shortly pedicelled, somewhat orbicular, 0,4 l. in diameter; Male spike very stout in comparison; flowers about 1 l. in diameter 3 and not rarely 4 parted, one or two in each axill.

Fruit examined. 1, dry coriaceous coating consisting of the somewhat fleshy perigonium; 2, second coating of similar consistency, formed by the ovary, lipped with the style. 3 viscid soft pulp; 4, seed, consisting of a light brown membranous which includes the oval or rather cylindric yellowish green albumen, from the top of which the radicle of the inverted embryo protrudes. — Fruit about 2 l. long; albumen 1 l. long; embryo 0.4 l. long; cotyledons very short, almost globular; embryo somewhat compressed. —

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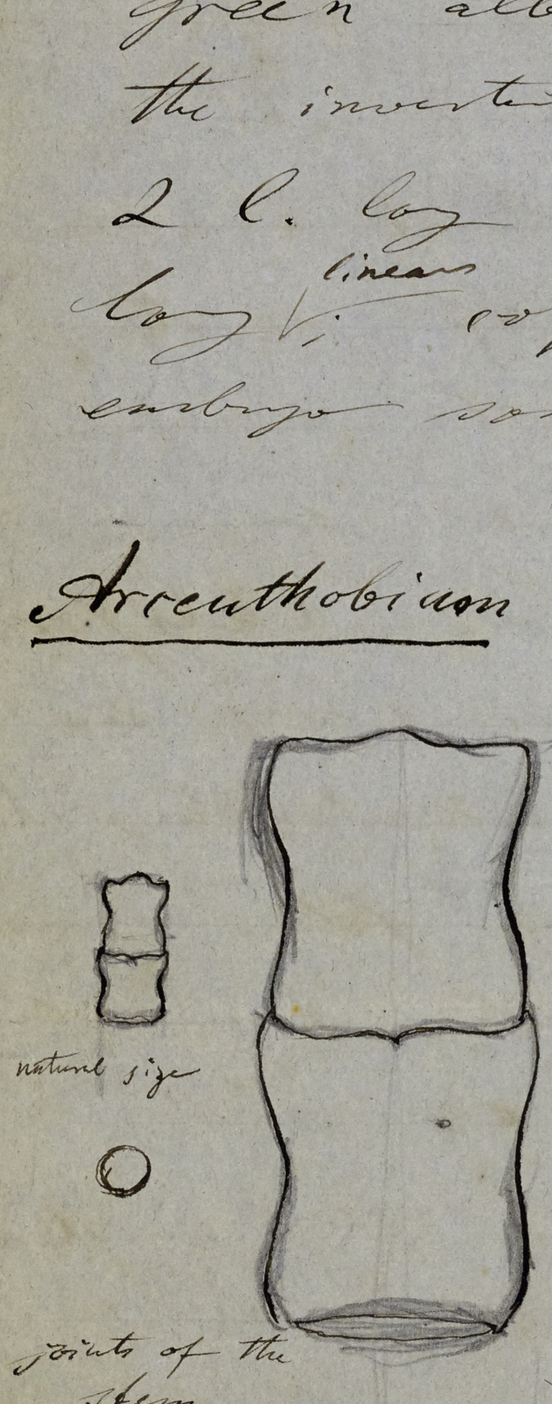
Arcuthobium campylopodum var. Brachystele Mexico, Coulter.



glaberrimum, caule teretiramulis (acute) compresso quadrangulatis, articulis brevibus, foliis squamaeformibus connatis, truncatis cuspidatis, junioribus obtusis, floribus in ramulis axillaribus terminalibus que, spicis densas ramosas formantibus, in quarum axillis singulis, brevissime pedicellatis, fructibus exacte pedicellatis, petalis, seminis ve. —

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fruits before me almost exactly like those of the
last form; 2 l. long 1¼ l. in transverse diame-
somewhat more compressed — and acutely carinate.
pedicle almost half as long as fruit. — Only fem. flowers seen.
0.8 l. long, 0.6 l. in transverse diameter; shape
oval, style slightly excurved. — Joints all very
short; those of the stem about 3 l. long and
2 — 2½ in ~~diameter~~ diameter; flowers joint
½ — 1 l. long. —

Arcenthobium

1. A. Oxycedri ramulis subcompresso-teretibus, striatis,
squamis triangularibus floribus geminis oppositis v. dichotomis
floribus geminis in ~~axillis squamarum~~, articulis 2 — 3
staminis binis, ternis, quaternis; floribus excentro-
pedicellatis, erectis.

2. A. americanum ramulis gracilibus teretibus, plus minus patulis,
squamis truncatis in ~~axillis squamarum~~ capitulas dilatatas ~~formantibus~~, fl. f.? fruct.?

3. A. divaricatum ramulis gracilibus oppositis v. dichotomis, acute quadrangulatis compressis; fl. fem. in ramulis brevibus axillaribus terminalibusque, paucis, in articulis singulis v. binis; — fructibus (incluso-pedicellatis?)

4. A. cryptopodum ramulis robustis, abbreviatis, oppositis
acute quadrangulatis; floribus fem. in ~~spicas multiflo-~~
in quovis articulo binis, in spicas multifloras, compositas
congestis; fructibus brevite, incluso-pedicellatis erectis.

5. A. campylopodum ramulis robustis oppositis,
acute quadrangulatis; floribus fem. in quovis
articulo binis, in spicas multifloras, compositas congestis
fructibus excento pedicellatis, patulis, recurvisve

α. Brachythecium caule erecto, ramulis quadrangulatis,
articulis omnibus brevissimis, robustissimis Mexico

β. ~~macro~~ navicularium ~~ramulis longioribus~~ articulis quovis oppositis
ultimis abbreviatis, ~~compresso navicularibus~~, California
Oregon

x.

30

Dr Cutler

Arcuthobium Oxycedri Europe

A. americanum Oregon

A. campylopodum New Mexico (& Hudsonbay) Mex, Va Oregon

A. macrothele New Mexico & Oregon Cal[ifornia]

P. Brachythele Mexico, Cuba.

A. cryptopodum New Mexico (& Hudsons Bay ?)

Arceuthobium M Bieb. Flores dioici, ovati, compressi. Fl. masc. Perianthium compressum tri3 (rarius 4-) fidum etc vide pag 22 Fl. fem. Perianthium ovatum compressum brevissime stipitatum, apice 2 (rarius 3-) dentatum, ov. etc vide p 22. Baccа (carnosa compressa) monosperma, corolla persistente coronata.

Folia vide supra pg 22

1. A. Oxycedri M. Bieb. Caule ramisque oppositis s. dichotomis ~~strictis~~ compresso-teretibus, ~~strictis~~ gracilibus, strictis, ramulis ultimis compresso-sub-4-angulatis; ~~foliis~~ squamis triangularibus in vaginulas pelviformes connatis; floribus femineis ~~masculinis~~ ramulorum articulis axillantibus, terminalibusque in quavis axilla singulis s. binis; ~~pedicellis~~ baccis exsertis-pedicellatis ~~exsertis~~ erectis ~~fructiferis~~ rectis exsertis.

Fiume ——— see page 26. Tom. Greg. fl.

2 A. americanum Nutt. caule ramisque fasciculatis teretibus gracilibus, patulis; squamis truncatis in vaginulas dilatatas cupuliformes connatis; floribus masculis axillantibus terminalibusque

Oregon on Pines, Nuttall. — Considerably resembling the var α of the next species but smaller, slenderer and at once distinguished by the terete branches, pesicular branchlets and much dilated vaginae — Female plant not known to me

3. A. campylopodum ramis opposito s. dichotomis compresso quadrangulatis, squamis truncatis, centro cuspidatis — vaginulas subglobosas cupuliformes connatis; floribus masculis axillantibus terminalibusque, masculis singulis s. binis, femineis ut. quavis axilla, singulis, ~~rarius spicatis~~ sparsis s. —

spicam simplicem s. compositam aggregatis; bracteis exsertis - pedicellis patulis s. recurvis.

α. macrothele (arthron) caule compresso, vix angulato; ramis gracilioribus, articulis plus minus elongatis; floribus femineis sparsis s. in ramulis brevibus paucis, s. in spicas breviores simplices aggregatis.

β.² brachythele (arthron) caule teretiusculo, robusto; ramis robustis, articulis abbreviatis, diametro vix longioribus; floribus femineis in spicas compositas densas aggregatis.

I have comprised under this name different forms, which when they are better known, will probably have to be separated as distinct species. My specimens are so incomplete that I can not even determine, whether the different forms which constitute the first of the two varieties will finally be retained under one species. — Var α has been found in Oregon (Geyer) (only on Pinus ponderosa) New Mexico (Fendler) (only on P. edulis) and California (Douglas). Of the Oregon plant I have seen ~~no male or female flowers~~, only fruiting specimens of the New Mexican plant, only male and female flowers, but of the California specimens all different states were observed. The specimens from New Mexico have short female spikes bearing 2 to 5 flowers, or the flowers are scattered in the axills of the branchlets; the flowers are elliptical, 0.4 l. wide — 0.5 l. long almost sessile. — Geyer's Oregon plant has apparently more elongated (many flowered) female spikes; flowers apparently ovate, pedicle nearly one third the length of the (not quite ripe) fruit. — The California plant is much stouter, male flowers twice as large as in the specimens from New Mexico, ofte 4 parted; female flowers in more elongated (recurved) spikes, elliptico-orbicular - 0.4 - 0.5 l. in diameter; pedicle more than half the length of the fruit, which is 2 l. long — 1,3 wide. ——

Var. β. has been collected in Mexico by Coulter. I can hardly doubt it to be a distinct species, but my means

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to distinguish it are at present too limited; The stout terete stem, the short joints, which are hardly longer than wide, the ~~dense~~ crowded, compound or panicled spikes, which resemble the following species, & the larger ovate flowers appear to indicate specific distinction. — Fem. flowers 0.6 l. & wide & 0.8 l. long; fruit 2 l. long, 1.2 l. — transverse diameter; pedicle more than half as long as fruit.

4. *A. cryptopodum* caule ramisque acute quadrangulatis, robustis, articulis brevibus; squamis truncatis in vaginulas cupulatas connatis; floribus ~~femineis~~ in spicas densas compositas ~~oppositis~~ congestis, femineis ovatis in quaris axillis singulis; — floribus brevissime inclusa pedicellatis, erectis.

Santa Fe, — a Pinus brachyptera; Fendler 283. Hookers A. Oxycedri, for the thickness by appears to belong here, at least, the figure shows subsessile erect fruits; — but the segments of the male flowers are broad & ovate while they are lanceolate in the ~~the~~ adjacent in the New Mexican plant

Rhododendron * *Foliosa*, foliis lamina dilatata basi attenuatis; ~~spicis~~ plus minus elongatis ~~*~~ articulis plumbeis pluri floris ~~spicatis plus minus elongatis~~ formam constitutis

1. Ph. flavescens 2, Ph. orbiculatum E 3, tomentosum
4. Ph. villosum 5. Ph. lanceolatum. E

** *Squamosa*; foliis ad in squamulas connatas, peltiformes reductis; ~~artis~~ spicis abbreviatis, ex articulis unpauris 1–2 pauri floris constitutis.

6. Ph. californicum Nutt 7. Ph. juniperinum E.

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Rhododendron flavescens Nutt. glabriusculum s. plus minus puberulum;
ramis teretibus, foliis oblongo-lanceolatis ovatis nunc obovatis,
~~plerumque tris~~ obtusis in petiolum brevem attenuatis; subtrinervis
supra nusquam subverticillatis, plerumque alternis, 4–5 (15–35)
multiflorus; supra foliis subopositis foliis
brevioribus, axillaris 3–4, 4–10 floris; floribus ~~sub 3fidis~~,
depresso globosis annulato carinatis ciliatis sub 3 fidis.

var α. glabriusculum ramulis foliis oblanceolatis
s. obovatis, 3 nerviis in petiolum glabriusculis, ramulis ~~subpubescentibus~~
~~glabriusculis~~, ~~subtrinervis~~ puberulis.

var β. pubescens foliis ~~oblanceolatis~~ ut in α
pubentis, ramulis ramescentibus

var γ. obsoletum foliis obovato-obsoletis,
in petiolum brevem abrupte contractis, vix 3.
indistincte trinerviis pubescentibus, dein glabratis.

From New Jersey to south Missouri and
New Mexico and south to Texas — Var α is the usual
form of the U. States, apparently the north form, generally
in ~~bottoms~~ low damp woods along the river banks;
β. is found in similar places about Hannibal,
Commerce &c and southern specimens probably on Ulmus
and Algarobia, also in Juncus ~~fractoats~~
γ. Arkansas & Texas on Juncus. — — — — —
Found to March. fruit ripens the following winter. — — —
~~Middle~~ joints of ~~sterile~~ spikes nearly 26 flowered, in a
pure state spicim (for Genus filate) I have from them
26 flowered; — — female flowers nearly in 6th or 8th. —
~~Distinguished~~ Rh. Fraseri is distinguished by the longer
joints of fertile spike contracted at both ends (not widest the upper) (= Rh.
male spikes, and smaller tomentose leaves; Rh. ovalis
from Oregon has much smaller and narrower ~~leaves~~ petiolate tomentose
leaves;

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Arrangement of

Lonicereae by

M. Roer

Lec Journ. Proced. Linnean

Society

Botany, vol VII. p 90

May 1863

Arrotho 6ium — p. 104

Phorandendron — p. 104

he ignores my earlier

publication

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NEW YORK

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CHEMIST

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Oliver in Proc. Linn. Soc. 1863
does not seem to have seen my description
of Dorantham in N. Lind. II. p. 212-215
1850 p. 212

Mex. fl. — Acrantho. marg. 4-fi
Jam. fl. of Acrantho. marg. 3-fi.
Jam fl. of Ph. jamaic. marg. 4-lobed.
Male fl. Ph. lanceolat — 4 — oft.
Jam fl. Ph. flor. . 2-petal.
Mexic. Ph. Tomtos 4 —

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MISSOURI BOTANICAL GARDEN

Benthan. Nov. Hartweg.
Mexican (1840)

p. 62 Loranthus (Struthanthus)
Hartwegii n sp
L. (Klr) densiflorus n sp.

L. calyculatus DC

L (Sprostyles) Grahami n sp

p 63 L.. (Smith) Dvaricifolius n sp

1 fig. all ÷ Ellis Col, except to
Cost

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No. 314 N. 6th Street, Bet. Olive and Locust.

St. Louis, Feb 13 1872

Dr. G. Englemann

201 S. 8th St.

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Rhoradendron spec. Wight — Griseb. R. Cub. orient.

f 191 & 192

Arten

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